

Claims

1. Device for continuously filtering material mixtures, especially for separating impurities from plastic melts, with a hollow, cylindrically-shaped filter element (2) arranged within a housing (1), with an annular space (22) defined by the outer side of the filter element (2) and the inner wall of the housing (1), and with at least one stripper (23), which can be pressed against the filter body (2) by means of a contact device for removing impurities detained on the filter element (2) due to the relative movement of the filter element (2) and stripper (23), characterized in that the contact device contains a pressure sensor (42, 53) for detecting the pressure of the material mixture upstream from the filter body (2) and an actuator (43) connected to the pressure sensor (42) for setting the contact pressure of the stripper (23) as a function of the pressure detected by the pressure sensor (42).
2. Device according to Claim 1, characterized in that the pressure sensor is a hydraulic transducer cylinder (42).
3. Device according to Claim 2, characterized in that the hydraulic transducer cylinder (42) contains a pressure piston (45) displaceable within a piston housing (44) and a pressure bolt (46) projecting into an inlet channel (20).
4. Device according to one of Claims 1-3, characterized in that the actuator (43) is a hydraulic adjusting cylinder (32, 33, 48).
5. Device according to Claim 4, characterized in that the hydraulic adjusting cylinder (32, 33, 48) contains a pressure piston (33) displaceable within a cylinder housing (32) and a piston rod (48) connected to the stripper (23).
6. Device according to one of Claims 1-5, characterized in that the pressure sensor (42) and the actuator (43) are connected to each other via a hydraulic line (50).
7. Device according to Claim 1, characterized in that the pressure sensor is an electric pressure transducer (53).
8. Device according to Claim 7, characterized in that the electric pressure transducer (53) is connected to the actuator (43) via control electronics (54) and a pressure control valve (55).
9. Device according to one of Claims 1-8, characterized in that the filter element (2) is arranged within the housing (1) so that it can rotate motor-driven about a center axis (3).
10. Device according to one of Claims 1-9, characterized in that the stripper (23) is arranged diagonal to the filter element (2).
11. Device according to one of Claims 1-10, characterized in that the stripper (23) is arranged at a contact angle (α) relative to a center plane (40) of the filter element (2).
12. Device according to Claim 11, characterized in that the contact angle (α) of the stripper (23, 28, 30) is variable.

13. Device according to one of Claims 1-12, characterized in that in the housing (1) there is a spiral conveyor (24) in the direct vicinity of the stripper (23) for transporting away the impurities removed radially by the stripper (23, 28, 30) from the filter element (2).

14. Device according to Claim 6, characterized in that the rotating motor-driven filter (2) and the spiral conveyor (24) can be driven separately.

15. Device according to Claim 8, characterized in that the rpm of the filter element (2) and the rpm of the spiral conveyor (24) are separately controllable.